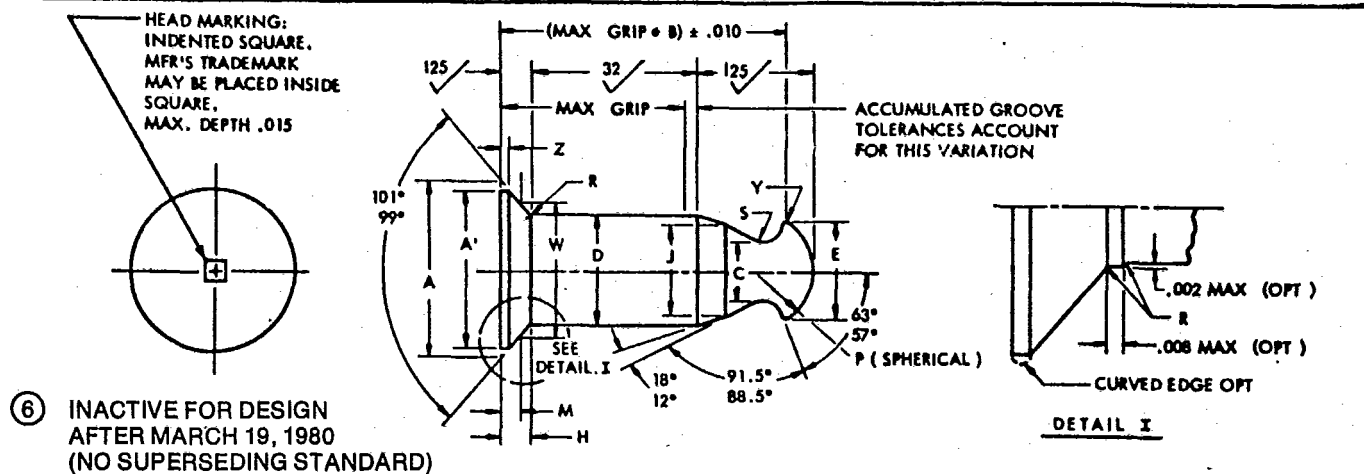


NATIONAL AEROSPACE STANDARD

AEROSPACE INDUSTRIES ASSOCIATION OF AMERICA, INC., 1725 DE SALES STREET, N. W., WASHINGTON, D. C. 20036

AIA AND ITS COMMITTEES WILL NOT INVESTIGATE THE APPLICABILITY OF PATENTS TO THE SUBJECT MATTER OF THIS STANDARD AND IN RESPECT THEREOF DO NOT ASSUME ANY LIABILITY TO PATENT OWNERS OR TO PROSPECTIVE USERS.

THIS DRAWING SUPERSEDES ALL ANTECEDENT STANDARD DRAWINGS FOR THE SAME PRODUCT AND SHALL BE EFFECTIVE IMMEDIATELY, NO LATER THAN SIX MONTHS FROM THE LAST DATE OF APPROVAL SHOWN HEREON.



FIRST DASH NO.	NOM DIA	A MAX (REF)	A' MIN (REF)	B	C	D		E	H MAX (REF)	J	M	P	R	S	W	Y MAX	Z MAX
						PRE- PLATE	POST- PLATE										
4	1/8	.2100	.1787	.083	.079 .073	.1240 .1235	.1250 .1239	.120 .116	.0354	.117 .113	.0197 .0166	.086 .078	.020 .005	.023 .019	.1628 .1626	.0075	.015
5	5/32	.2575	.2203	.114	.103 .097	.1555 .1550	.1565 .1554	.153 .148	.0418	.148 .144	.0220 .0186	.110 .100	.025 .005	.028 .023	.2028 .2026	.0075	.015
6	3/16	.3047	.2578	.125	.119 .114	.1894 .1889	.1904 .1893	.186 .181	.0485	.179 .174	.0250 .0210	.128 .118	.030 .005	.034 .030	.2441 .2439	.0075	.015
8	1/4	.3988	.3504	.165	.156 .151	.2492 .2487	.2502 .2491	.244 .239	.0631	.235 .230	.0278 .0232	.167 .155	.030 .005	.044 .040	.3315 .3313	.0075	.015
10	5/16	.4787	.4289	.206	.194 .188	.3117 .3112	.3127 .3116	.307 .302	.0704	.296 .290	.0305 .0255	.206 .194	.040 .005	.054 .050	.4047 .4045	.0075	.015
12	3/8	.5662	.5149	.248	.232 .226	.3742 .3737	.3752 .3741	.370 .365	.0810	.361 .355	.0333 .0277	.250 .237	.040 .005	.066 .062	.4854 .4852	.0075	.015
14	7/16	.6741	.6047	.289	.270 .264	.4367 .4362	.4377 .4366	.431 .425	.1001	.426 .419	.0430 .0370	.295 .280	.050 .005	.077 .073	.5697 .5695	.0125	.022
16	1/2	.7611	.6901	.330	.308 .302	.4991 .4986	.5001 .4990	.494 .488	.1105	.489 .481	.0458 .0392	.337 .322	.050 .005	.089 .085	.6499 .6497	.0125	.022
18	9/16	.8449	.7655	.371	.346 .340	.5616 .5611	.5626 .5615	.555 .549	.1194	.550 .542	.0515 .0445	.380 .365	.050 .005	.100 .096	.7200 .7198	.015	.025
20	5/8	.9329	.8518	.413	.384 .378	.6240 .6234	.6250 .6238	.618 .612	.1302	.613 .605	.0543 .0467	.423 .408	.070 .005	.111 .107	.8011 .8009	.015	.025

- "M" PROTRUSION VALUES TO BE CHECKED WITH NAS526
- HEAD ANGLE, HEAD COCKING, CONCENTRICITY AND THE HEAD TO SHANK FILLET RADII TO BE CHECKED WITH AN OPTICAL COMPARATOR OR BY EQUIVALENT METHODS
- DIMENSIONS A, A' AND H ARE INCLUDED FOR REFERENCE PURPOSES ONLY AND ARE NOT TO BE USED FOR ACCEPTANCE PURPOSES. THESE VALUES ARE CALCULATED LIMITS RESULTING FROM W, M, Z AND HEAD ANGLE WITH APPLICABLE TOLERANCES
- ENTRANCE CHAMFER SHALL NOT FALL WITHIN THE MAXIMUM GRIP
- NAS525-4 THRU -12 RIVETS TO BE INSTALLED WITH NAS528 COLLARS OF THE SAME DASH NUMBER. CHECK AVAILABILITY OF DRIVING EQUIPMENT BEFORE USING NAS528-14 THRU -20 COLLARS. NAS525-14 THRU -20 MAY BE INSTALLED WITH NAS179 COLLARS
- SEE NAS527 FOR THE RECOMMENDED PRACTICE FOR INSPECTING HEAD CHARACTERISTICS

- Dimensions to be met after plating except for pre-plate D diameter
- Conical surface of head and shank to be concentric within .003 total runout
- C, E and J shall be concentric with D diameter with .005 total runout for -4 thru -12 sizes, .006 total runout for -14 thru -20 sizes
- The top surface of the head shall be perpendicular to the axis of the shank within the limits of 89° 45' and 90° 15'
- Surface roughness in accordance with MIL-STD-10

PROCUREMENT SPECIFICATION: NAS498 except as noted

HEAT TREAT: 160,000 to 180,000 PSI per Specification MIL-H-6875

FINISH: Cadmium plate per Specification QQ-P-416 Type II, Class 2.

Parts with Class 3 plating may be furnished from supplier's stock until 30 Nov. 1975.

MATERIAL: MIL-S-6098 Steel, Chrome-Nickel-Molybdenum (8735) Bar and Rod
 MIL-S-6049 Steel, Chrome-Nickel-Molybdenum (8740) ANS6322 Bar and Rod
 MIL-S-8503 Steel, Chrome-Vanadium (6150) Bar and Billet
 MIL-S-5626 Steel, Chrome-Molybdenum (4140) Bar and Rod
 MIL-S-5000 Steel, Chrome-Nickel-Molybdenum (4340) (AMS6412) Bar and Rod
 MIL-S-8695 Steel, Molybdenum (4037) Bar and Rod
 MIL-S-6758 Steel, Chrome-Molybdenum (4130) Bar and Rod

DIMENSIONS IN INCHES

CUSTODIAN: NATIONAL AEROSPACE STANDARDS COMMITTEE

PROCUREMENT SPECIFICATION	TITLE	CLASSIFICATION
NOTED	RIVET-100° COUNTERSUNK HEAD HI-SHEAR CLOSE TOLERANCE HEAD AND SHANK	STANDARD PART
		NAS 525 SHEET 1 OF 2

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NATIONAL AEROSPACE STANDARD

AEROSPACE INDUSTRIES ASSOCIATION OF AMERICA, INC., 1725 DE SALES STREET, N. W., WASHINGTON, D. C. 20036

THIS DRAWING SUPERSEDES ALL ANTECEDENT STANDARD DRAWINGS FOR THE RIVET-100° COUNTERSUNK HEAD HI-SHEAR CLOSE TOLERANCE HEAD AND SHANK. IT BECOMES EFFECTIVE FOR VENDOR MANUFACTURERS NOT LATER THAN 6 MONTHS AFTER THE LATEST DATE OF APPROVAL SHOWN.

IN FORMULATING AND APPROVING NAS STANDARDS, AIA AND ITS COMMITTEES WILL NOT INVESTIGATE PATENTS WHICH MAY APPLY TO THE SUBJECT MATTER. PROSPECTIVE USERS OF THE STANDARD ARE RESPONSIBLE FOR PROTECTING THEMSELVES AGAINST INFRINGEMENT OF PATENTS.

SECOND DASH NO.	MAX GRIP	GRIP RANGE		(MAX GRIP + 8) ± .010 FOR NOM DIA SHOWN										SECOND DASH NO.
		MIN	MAX	1/8	5/32	3/16	1/4	5/16	3/8	7/16	1/2	9/16	5/8	
2	1/8	.062	.125	.208	.239	.250								2
3	3/16	.126	.188	.271	.302	.313	.353	.394						3
4	1/4	.189	.250	.333	.364	.375	.415	.456	.498	.539				4
5	5/16	.251	.312	.395	.426	.437	.477	.518	.560	.601	.642	.683		5
6	3/8	.313	.375	.458	.489	.500	.540	.581	.623	.664	.705	.746	.788	6
7	7/16	.376	.438	.521	.552	.563	.603	.644	.686	.727	.768	.809	.851	7
8	1/2	.439	.500	.583	.614	.625	.665	.706	.748	.789	.830	.871	.913	8
9	9/16	.501	.562	.645	.676	.687	.727	.768	.810	.851	.892	.933	.975	9
10	5/8	.563	.625	.708	.739	.750	.790	.831	.873	.914	.955	.996	1.038	10
11	11/16	.626	.688	.771	.802	.813	.853	.894	.936	.977	1.018	1.059	1.101	11
12	3/4	.689	.750	.833	.864	.875	.915	.956	.998	1.039	1.080	1.121	1.163	12
13	13/16	.751	.812	.895	.926	.937	.977	1.018	1.060	1.101	1.142	1.183	1.225	13
14	7/8	.813	.875	.958	.989	1.000	1.040	1.081	1.123	1.164	1.205	1.246	1.288	14
15	15/16	.876	.938	1.021	1.052	1.063	1.103	1.144	1.186	1.227	1.268	1.309	1.351	15
16	1	.939	1.000	1.083	1.114	1.125	1.165	1.206	1.248	1.289	1.330	1.371	1.413	16
17	1-1/16	1.001	1.062	1.145	1.176	1.187	1.227	1.268	1.310	1.351	1.392	1.433	1.475	17
18	1-1/8	1.063	1.125	1.208	1.239	1.250	1.290	1.331	1.373	1.414	1.455	1.496	1.538	18
19	1-3/16	1.126	1.188	1.271	1.302	1.313	1.353	1.394	1.436	1.477	1.518	1.559	1.601	19
20	1-1/4	1.189	1.250	1.333	1.364	1.375	1.415	1.456	1.498	1.539	1.580	1.621	1.663	20
21	1-5/16	1.251	1.312	1.395	1.426	1.437	1.477	1.518	1.560	1.601	1.642	1.683	1.725	21
22	1-3/8	1.313	1.375	1.458	1.489	1.500	1.540	1.581	1.623	1.664	1.705	1.746	1.788	22
23	1-7/16	1.376	1.438	1.521	1.552	1.563	1.603	1.644	1.686	1.727	1.768	1.809	1.851	23
24	1-1/2	1.439	1.500	1.583	1.614	1.625	1.665	1.706	1.748	1.789	1.830	1.871	1.913	24
25	1-9/16	1.501	1.562	1.645	1.676	1.687	1.727	1.768	1.810	1.851	1.892	1.933	1.975	25
26	1-5/8	1.563	1.625	1.708	1.739	1.750	1.790	1.831	1.873	1.914	1.955	1.996	2.038	26
27	1-11/16	1.626	1.688	1.771	1.802	1.813	1.853	1.894	1.936	1.977	2.018	2.059	2.101	27
28	1-3/4	1.689	1.750	1.833	1.864	1.875	1.915	1.956	1.998	2.039	2.080	2.121	2.163	28
29	1-13/16	1.751	1.812	1.895	1.926	1.937	1.977	2.018	2.060	2.101	2.142	2.183	2.225	29
30	1-7/8	1.813	1.875	1.958	1.989	2.000	2.040	2.081	2.123	2.164	2.205	2.246	2.288	30
31	1-15/16	1.876	1.938	2.021	2.052	2.063	2.103	2.144	2.186	2.227	2.268	2.309	2.351	31
32	2	1.939	2.000	2.083	2.114	2.125	2.165	2.206	2.248	2.289	2.330	2.371	2.413	32
33	2-1/16	2.001	2.062	2.145	2.176	2.187	2.227	2.268	2.310	2.351	2.392	2.433	2.475	33
34	2-1/8	2.063	2.125	2.208	2.239	2.250	2.290	2.331	2.373	2.414	2.455	2.496	2.538	34
35	2-3/16	2.126	2.188	2.271	2.302	2.313	2.353	2.394	2.436	2.477	2.518	2.559	2.601	35
36	2-1/4	2.189	2.250	2.333	2.364	2.375	2.415	2.456	2.498	2.539	2.580	2.621	2.663	36
37	2-5/16	2.251	2.312	2.395	2.426	2.437	2.477	2.518	2.560	2.601	2.642	2.683	2.725	37
38	2-3/8	2.313	2.375	2.458	2.489	2.500	2.540	2.581	2.623	2.664	2.705	2.746	2.788	38
39	2-7/16	2.376	2.438	2.521	2.552	2.563	2.603	2.644	2.686	2.727	2.768	2.809	2.851	39
40	2-1/2	2.439	2.500	2.583	2.614	2.625	2.665	2.706	2.748	2.789	2.830	2.871	2.913	40
41	2-9/16	2.501	2.562	2.645	2.676	2.687	2.727	2.768	2.810	2.851	2.892	2.933	2.975	41
42	2-5/8	2.563	2.625	2.708	2.739	2.750	2.790	2.831	2.873	2.914	2.955	2.996	3.038	42
43	2-11/16	2.626	2.688	2.771	2.802	2.813	2.853	2.894	2.936	2.977	3.018	3.059	3.101	43
44	2-3/4	2.689	2.750	2.833	2.864	2.875	2.915	2.956	2.998	3.039	3.080	3.121	3.163	44
45	2-13/16	2.751	2.812	2.895	2.926	2.937	2.977	3.018	3.060	3.101	3.142	3.183	3.225	45
46	2-7/8	2.813	2.875	2.958	2.989	3.000	3.040	3.081	3.123	3.164	3.205	3.246	3.288	46
47	2-15/16	2.876	2.938	3.021	3.052	3.063	3.103	3.144	3.186	3.227	3.268	3.309	3.351	47
48	3	2.939	3.000	3.083	3.114	3.125	3.165	3.206	3.248	3.289	3.330	3.371	3.413	48
49	3-1/16	3.001	3.062	3.145	3.176	3.187	3.227	3.268	3.310	3.351	3.392	3.433	3.475	49
50	3-1/8	3.063	3.125	3.208	3.239	3.250	3.290	3.331	3.373	3.414	3.455	3.496	3.538	50
51	3-3/16	3.126	3.188	3.271	3.302	3.313	3.353	3.394	3.436	3.477	3.518	3.559	3.601	51
52	3-1/4	3.189	3.250	3.333	3.364	3.375	3.415	3.456	3.498	3.539	3.580	3.621	3.663	52
53	3-5/16	3.251	3.312	3.395	3.426	3.437	3.477	3.518	3.560	3.601	3.642	3.683	3.725	53
54	3-3/8	3.313	3.375	3.458	3.489	3.500	3.540	3.581	3.623	3.664	3.705	3.746	3.788	54
55	3-7/16	3.376	3.438	3.521	3.552	3.563	3.603	3.644	3.686	3.727	3.768	3.809	3.851	55
56	3-1/2	3.439	3.500	3.583	3.614	3.625	3.665	3.706	3.748	3.789	3.830	3.871	3.913	56
57	3-9/16	3.501	3.562	3.645	3.676	3.687	3.727	3.768	3.810	3.851	3.892	3.933	3.975	57
58	3-5/8	3.563	3.625	3.708	3.739	3.750	3.790	3.831	3.873	3.914	3.955	3.996	4.038	58
59	3-11/16	3.626	3.688	3.771	3.802	3.813	3.853	3.894	3.936	3.977	4.018	4.059	4.101	59
60	3-3/4	3.689	3.750	3.833	3.864	3.875	3.915	3.956	3.998	4.039	4.080	4.121	4.163	60
61	3-13/16	3.751	3.812	3.895	3.926	3.937	3.977	4.018	4.060	4.101	4.142	4.183	4.225	61
62	3-7/8	3.813	3.875	3.958	3.989	4.000	4.040	4.081	4.123	4.164	4.205	4.246	4.288	62
63	3-15/16	3.876	3.938	4.021	4.052	4.063	4.103	4.144	4.186	4.227	4.268	4.309	4.351	63
64	4	3.939	4.000	4.083	4.114	4.125	4.165	4.206	4.248	4.289	4.330	4.371	4.413	64

③ INACTIVE FOR DESIGN
AFTER MARCH 19, 1980
(NO SUPERSEDING STANDARD)

CODE - FIRST DASH NUMBER INDICATES NOMINAL DIAMETER IN THIRTY SECONDS.
SECOND DASH NUMBER INDICATES MAXIMUM GRIP IN SIXTEENTHS.

EXAMPLE - NAS525-8-8- 100° COUNTERSUNK HEAD RIVET, CLOSE TOLERANCE HEAD AND SHANK, 1/4 (8/32) DIAMETER WITH 1/2 (8/16) MAXIMUM GRIP.

CUSTODIAN: NATIONAL AEROSPACE STANDARDS COMMITTEE

PROCUREMENT SPECIFICATION	TITLE	CLASSIFICATION
NOTED	RIVET-100° COUNTERSUNK HEAD HI-SHEAR CLOSE TOLERANCE HEAD AND SHANK	STANDARD PART

Documents
NAS 525
Document Sharing Hub